11-1: Introduction to Polynomials

Degree of a polynomial:

Terms of the polynomial:

Polynomial in x:

Standard form:

Leading coefficient:

Example 1:

a. Expand and write in standard form: $(5x^3 - 6)^2$

b. What is the degree?

c. What is the leading coefficient?

Some special types of polynomials:

Degree 1: Degree 2:

Degree 3: Degree 4:

Polynomial function:

Example 2: $P(x) = x^5 - 4x^4 + x^2 - 5x + 50$

a. Find $P(-1)$.

b. Graph $P(x)$ in your graphing calculator. Set your window to $-5 \le x \le 5$ and $-60 \le y \le 60$. Draw a sketch of it below if you like.

Example 3: On Matt Mitarnowski's eighteenth birthday, he inherited $5000 that he invested in a savings plan at 8% annual yield. He then set out a plan to save for a house, saving an extra $2000 at the end of each year. He needs a down payment of $20000. Will he have enough after 6 years?

Homework:

"Don't go around saying the world owes you a living. The world owes you nothing. It was here first." - Mark Twain